00-132

Verizon 1300 I Street, N.W. Washington, D.C. 20005 Voice 202 336-7892 Fax 202 336-7922 Shawn Donnelly Staff Manager – Federal Regulatory



September 15, 2000

Mr. Dale Hatfield Chief – Office of Engineering and Technology Federal Communications Commission 445 12th Street, SW Room 7-C155 Washington, DC 20554

Re: Final Service Outage Report

Dear Mr. Hatfield:

In accordance with the requirements in CC Docket 91-273, enclosed is the Final Service Disruption Report for the Verizon service outage that occurred August 17, which affected Rochelle Park, NJ.

Please call me if you have any questions about this report or other service outage issues.

Sincerely,

Enclosure

cc: R. Kimball

Shaw Sarrelly.

	WIRE LINE OUTAGE R	EPORTING TEMPLATE				
[Reporting Carrier	Date of Incident				
Ì	Verizon	8/17/2000				
ŀ	Time of Incident	Geographic Area Affected				
	23:47	Northern New Jersey				
ŀ	Services Affected	Number of Customers Affected				
l		Approximately 1,944,000				
İ	IntraLATA Intraoffice	Number of Blocked Calls				
	IntraLATA Interoffice X.	918,145				
İ	InterLATA Interoffice X	Outage Duration				
	E911	13 Hrs 43 Min				
l						
	Multirate Transport Node (iMTN) Broadband Dibroadband deployment. On August 17 at 23:47 PM, the Madison Network when the synchronizer (SYNC-6A) card in an interest of the backup (SYNC-6B card) as designed.	es- an end office switch, a sector tandem, an nect systems. Verizon uses the Alcatel Integrated igital Cross-connect System (BDCS) for the Control Center (NCC) saw numerous alarms MTN (RCPKNJ02K34) failed and the system did signed. Loss of this system affected message and				
	special service circuits between Rochelle Park and the 23 wire centers in this sector. The NCC contacted Verizon Tier 2 Support and Alcatel Technical Support to work on the trouble.					
	Initial attempts to reset the SYNC cards were unsuccessful. Administrative processor (MS) failures caused problems communicating with the system that had to be resolved before the actual trouble could be addressed.					
	Alcatel directed that the SYNC 6B card be repla August 18 at 4:21 AM, the SYNC 6A card was restoring some traffic. When the SYNC 6A card	replaced and the SYNC 6B came into service				

Alcatel directed that the SYNC 6B card be replaced. When this failed to restore the system, on August 18 at 4:21 AM, the SYNC 6A card was replaced and the SYNC 6B came into service restoring some traffic. When the SYNC 6A card returned to service, the remaining traffic began to restore. To expedite restoration of traffic, Alcatel began manually restoring the system. By noon, 954 T3's, approximately 1,854,600 access lines, were restored to service. The remaining 46 inter-exchange carrier (IEC) T3 systems had to be physically moved to a spare shelf. At 13:30, Verizon completed moving the 46 T3's and all service was restored.

Preliminary analysis indicated that the failure of the SYNC 6A card was not recognized by the system software, did not produce a proper alarm indication, and did not invoke a switch to the redundant SYNC 6B card.

Direct Cause				
Design – Software				

Root Cause	
Design – Software: Ineffective fault recovery o	r re-initialization action
Name and Type of Equipment	Specific Part of the Network Involved
Alcatel Integrated Multirate Transport Node	Broadband Digital Cross Connect System
(iMTN) broadband cross connect system,	(BDCS)
Release 4.1.0	

Methods Used to Restore Service

Both synchronizer cards in the iMTN were replaced. 46 inter-exchange carrier (IEC) T3's had to be physically moved to another shelf

Steps Taken to Prevent Recurrence of the Incident

Verizon has sent the synchronizer cards to Alcatel for analysis.

Verizon has requested that Alcatel provide:

- 1. A written analysis and action plan to correct "silent sync failure"
- 2. Documentation/flow-charted system restoral procedures that will ensure consistent and timely system restoration from catastrophic failures.

Verizon is expediting final testing, acceptance and deployment of release 4.1.1.

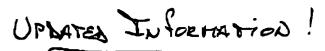
Evaluation of Best Practices

Two "Best Practices" recommended by the FCC's Network Reliability Council's publication, June 1993, *A Report to the Nation*, apply to this outage. The first "Best Practice" in Section D, 6.1.4 makes two recommendations:

- Eliminate the possibility of silent failures on any DCS system component, including OS or Management System, cross-connect or communication links.
- There must be sufficient processor and communication transport capability to simultaneously process messages from a major network event and remotely control the DCS

A second "Best Practice" that applies is Section D, 6.4.1: "Equipment suppliers should provide improved documentation on memory backup procedures and methods to recover from total system outages."

Contact Person	Telephone Number of Contact Person
Shawn Donnelly	202-336-7892



VERIZON FCC NETWORK DISRUPTION INITIAL REPORT

00-132

TICKET #: 9AC-3F2

1. 2.	DATE AND TIME OF INCIDENT: GEOGRAPHIC AREA AFFECTED:	08/17/2 Rochelle Park, N		11:58:00 PM
3.	MAXINUM NUMBER OF CUSTOM	ERS AFFECTED:	Approx. 900 T	36
4.	TYPE OF SERVICES AFFECTED:			
₹,	TIPE OF SERVICES AFFECTED;			
	MERGENCY-SERVICE 🖾 INTERLATA	OTHER		
INT	TRALATA 800 SERVICES			
5. recove	DURATION OF OUTAGE: Mos ery is ongoing at 10:16 08/18/00	t service restored by (7:30 08/18/00 ho	owever full
6,	ESTIMATED NUMBER OF BLOCK	ED CALLS: Approxi	nately 360,000	
7A.	TYPE EQUIPMENT: Other	VENDOR:	Alcatel	
7B.	APPARENT OR KNOWN CAUSE O	F INCIDENT:		
	An IMTN frame, which is an electronic T	3 cross connect frame	. was out of servi	ce due to
8 0ere (ctive sync timing card in the frame			
8.	METHOD USED TO RESTORE SER	VICE:		,
	The sync card was replaced and the fran	ne went through its re	covery process	
θ.	STEPS TAKEN TO PREVENT RECU	JRRENCE:		
	To be determined at Root Cause Analysi	В		
Pureu	ant to Section 0.459 (b) of the Comm	ilesion Rules, and	or reason set	forth below,
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NOTE: Retention period is 6 Years